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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,671	09/15/2005	Hitoshi Ohsaki	SAEG129.008APC	9245

20995 7590 06/03/2008
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

CHAI, LONGBIT

ART UNIT	PAPER NUMBER
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2131

NOTIFICATION DATE	DELIVERY MODE
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06/03/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No. 10/521,671	Applicant(s) OHSAKI ET AL.	
	Examiner LONGBIT CHAI	Art Unit 2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Currently pending claims are 1 – 9 and 13 – 15.

Response to Arguments

2. Applicant's arguments with respect to instant claims have been fully considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

Claim Objections

3. Claims 2, 5 and 8 are objected to because of the following informalities: a fourth equation tree is cited in the claims while lacking of a third and a fourth equation trees being recited in the claims. Appropriate correction is required if necessary.
4. Claims 1, 2, 4, 5, 7 and 8 are objected to because of the following informalities: (i) Item (G), the symbol $r | q$ does not match $r | p$ (ii) Item (c), the symbol $1 | p$ is almost not readable as a subscript of C. Besides, all of the superscript symbols such as $p.1$, $p.n$, and subscript symbols such as $r | q$ and $1 | p$ are not described / recited with the associated representations in respect to the exact meaning of the argument terms of a function.

Specification

5. The disclosure is objected to because of the following informalities: as on page 15 / Line 1 – 3 indicating “by the method introduced in the above thesis by Y. Kaji et al.” however, there is no exact thesis clearly specified in the disclosure for reference except Journal of Symbolic Computation 1997. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Regarding claims 1, 2, 4, 5, 7 and 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Any other claims not addressed are rejected by virtue of their dependency. Any other claims not addressed are rejected by virtue of their dependency.

7. Claims 1, 2, 4, 5, 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the claim language "(H) obtaining said second equational tree automaton by performing repeatedly said (F) selecting and (G) determining processes regarding all elements q positioned at the ends of said tree-structure of said second group" is indefinite and not clear with respect to exactly when the repeated process (F) and (G) can be terminated.

8. Claims 1, 2, 4, 5, 7 and 8 recite "equational tree automaton accepts said selected term to be verified". There is insufficient antecedent basis for this limitation in the claim because the "said selected term" is unclear to exactly which previous "term" that it is referred to – for example, "equational tree automaton which accepts said set of terms and a set that comprises terms derived from said set of terms". Therefore, the claim language is unclear and ambiguous. Any other claims not addressed are rejected by virtue of their dependency.

Allowable Subject Matter

Claims 1 – 9 and 13 – 15 would be allowable if all of the issues associated with 35 USC § 112 rejections are resolved appropriately. Claims 2, 5 and 8 (and associated dependent claims) are allowable because no prior art teaches a safety verification device of a reactive system represented by a set of function symbols, a set of rewriting rules, a set of axioms, a set of terms, and a term to be verified, said set of axioms being a set consisting only a commutative law and an associative law, and said safety verification device of a reactive system comprises a translation unit generating, under said set of axioms, a first equational tree automaton which accepts said set of terms; a simulation unit generating, under said set of rewriting rules and said set of axioms and using said first equational tree automaton as initial data, a second equational tree automaton which accepts said set of terms and a set comprising terms derived from said set of terms; and a set operation unit determining whether or not said second equational tree automaton accepts said term to be verified.

Claims 1, 4 and 7 (and associated dependent claims) are allowable because no prior art teaches a safety verification device of a reactive system represented by a set of function symbols, a set of rewriting rules, a set of axioms, a set of terms, and a set of terms to be verified, said set of axioms being a set consisting only a commutative law and an associative law, and said safety verification device of a reactive system comprises a translation unit generating, under said set of axioms, an equational tree automaton which accepts said set of terms; a simulation unit generating, under said set of rewriting rules and said set of axioms and using said first equational tree automaton as initial data, a second equational tree automaton which accepts said set of terms and a set comprising terms derived from said set of terms; and a set operation unit which generates a fourth equational tree automaton by associating said second equational tree automaton with a third equational tree automaton which accepts said set

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of terms to be verified and determines whether or not a set accepted by the fourth equational tree automaton is an empty set.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LONGBIT CHAI whose telephone number is (571)272-3788. The examiner can normally be reached on Monday-Friday 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Longbit Chai/

Longbit Chai Ph.D.

Primary Examiner, Art Unit 2131

5/20/2008